

WE CLAIM:

1. A method of reducing or eliminating odor in an ester composition comprising removing the esterification catalyst from the crude ester before neutralization of acidity.

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2. In a process for preparing reduced-odor esters comprising reacting an acid with an alcohol in the presence of an effective amount of a catalyst, and removing water of esterification until esterification is substantially complete, the improvement which comprises removing said catalyst after the esterification reaction is substantially complete.

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3. In a process for preparing odorless, colorless esters from an esterification reaction mixture obtained by reacting an acid and an alcohol in the presence of an effective amount of a catalyst, which comprises adding alkali to the esterification reaction mixture and washing the ester, the improvement, wherein prior to addition of alkali, removing said catalyst from said reaction mixture, and wherein after neutralization with said alkali is completed, contacting the wet, crude ester with a bleaching agent.

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4. The process of claim 3 wherein said odorless esters are benzoate esters, octanoate esters, aliphatic emollient esters, or glycol dibenzoate esters, wherein said acid is selected from the group consisting of benzoic acid, ethylhexanoic acid, and linear

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or branched carboxylic acids with 4 to 22 carbon atoms, and wherein said alcohol has from 3 to 22 carbon atoms.

5 5. In a process for preparing reduced-odor benzoate esters from an esterification reaction mixture obtained by reacting benzoic acid with an alcohol in the presence of an effective amount of a catalyst, which comprises the steps of:

 heating said reaction mixture;

 collecting distillate comprising the water of reaction;

10 neutralizing and washing the acidity of said reaction mixture with at least one alkali;

 drying said ester; and

 filtering the refined ester product;

15 the improvement comprising removing said catalyst from said reaction mixture after the reaction is complete, and before neutralization.

6. The process of claim 5 wherein said catalyst comprises an organometallic compound or metal oxide compound.

20 7. The process of claim 5 wherein said catalyst is stannous oxalate or zinc oxide.

25 8. The process of claim 5 wherein said catalyst is removed by filtration.

9. The process of claim 5 wherein in said neutralization step, the filtered, crude ester is neutral washed with at least stoichiometric amounts of alkali.

5 10. The process of claim 5 wherein said alkali comprises an alkali metal carbonate or alkali metal hydroxide.

10 11. The process of claim 5 wherein after said neutralization is completed, contacting the wet, crude ester with a bleaching agent.

12. The process of claim 5 wherein said bleaching agent is hydrogen peroxide.

15 13. The process of claim 5 wherein said wet, crude ester is contacted with a bleaching agent in a first or subsequent washing step, after neutralization is complete.

20 14. The process of claim 5 wherein said alcohol comprises from 3 to 22 carbon atoms.

15. The process of claim 5 wherein said alcohol preferably comprises 12 to 15 carbon atoms.

5 16. The process of claim 5 wherein said alcohol is most preferably Neodol 25.

17. The process of claim 5 wherein said crude ester has an acidity of no more than 10 mg KOH/g.

5 18. The process of claim 5 further comprising pretreating said alcohol with sodium borohydride before reacting with benzoic acid and before contacting with said catalyst.

10 19. The process of claim 5 wherein said neutralization wash further comprises at least one salt selected from the group consisting of sodium chloride, sodium sulfate, potassium chloride and potassium sulfate.

15 20. The process of claim 5 further comprising the step of cooling said reaction mixture after said reaction is substantially complete and before said neutralization step.

20 21. The process of claim 5 comprising the step of further washing the resulting crude ester after said neutralization and washing step.

25 22. The process of claim 21 wherein at least one salt selected from the group consisting of sodium chloride, sodium sulfate, potassium chloride, and potassium sulfate is added in at least one of said washing steps.

23. The process of claim 5 wherein distillate is collected until sterification is substantially complete.

24. The process of claim 5 wherein said process is a batch process.

25. The process of claim 5 wherein said process is a continuous process.

26. The process of claim 25 wherein said process is conducted in a continuous extractor.

27. A reduced odor benzoic acid ester prepared by the process of claim 5.

28. A reduced odor C12 - C15 alkyl benzoate ester prepared by the process of claim 5.

29. A non-aqueous composition for topical application comprising one or more active ingredients and a benzoic acid ester emollient agent prepared by the process of claim 5.

30. The composition of claim 29 wherein said one or more active ingredients are selected from the group consisting of sunscreens, moisturizers, film formers, detergents, emulsifiers, emollients, thickening agents, antiseptic agents, conditioning

agents, deodorant actives, and reducing agents.

31. An aqueous composition comprising one or more active ingredients and a benzoic acid ester emollient agent prepared by the process of claim 5.

32. The composition of claim 31 wherein said one or more active ingredients are selected from the group consisting of sunscreens, moisturizers, film formers, detergents, emulsifiers, emollients, thickening agents, antiseptic agents, conditioning agents, deodorant actives, and reducing agents.

33. In a process for preparing reduced-odor octanoate esters from an esterification reaction mixture obtained by reacting ethylhexanoic acid with an alcohol in the presence of an effective amount of a catalyst, which comprises the steps of:

heating said reaction mixture;

collecting distillate comprising the water of reaction;

neutralizing and washing the acidity of said reaction mixture

with at least one alkali;

drying said ester; and

filtering the refined ester product;

the improvement comprising removing said catalyst from said reaction mixture after the reaction is complete, and before neutralization.

34. The process of claim 33 wherein said alcohol comprises from 3 to 22 carbon atoms.

5 35. The process of claim 33 wherein said alcohol preferably comprises 12 to 15 carbon atoms.

36. The process of claim 33 wherein said alcohol is preferably Neodol 25.

10 37. The process of claim 33 wherein said catalyst is stannous oxalate or zinc oxide.

15 38. The process of claim 33 wherein after said neutralization is completed, contacting the wet, crude ester with a bleaching agent.

39. A reduced odor octanoate ester prepared by the process of claim 33.

20 40. In a process for preparing reduced odor aliphatic, emollient esters from an esterification reaction mixture obtained by reacting a carboxylic acid with an alcohol in the presence of an effective amount of a catalyst, which comprises the steps of:
heating said reaction mixture;
25 collecting distillate comprising the water of reaction;
neutralizing and washing the acidity of said reaction mixture

with at least one alkali;

drying said ester; and

filtering the refined ester product;

the improvement comprising removing said catalyst from said
5 reaction mixture after the reaction is complete, and before
neutralization.

41. The process of claim 40 wherein said alcohol comprises
from 3 to 22 carbon atoms and wherein said carboxylic acid
10 comprises linear or branched carboxylic acids with 4 to 22 carbon
atoms.

42. The process of claim 40 wherein said alcohol preferably
comprises 12 to 15 carbon atoms.

15 43. The process of claim 40 wherein said alcohol is
preferably Neodol 25.

44. The process of claim 40 wherein said catalyst is
20 stannous oxalate or zinc oxide.

45. The process of claim 41 wherein after said neutral-
ization is completed, contacting the wet, crude ester with a
bleaching agent.

46. A reduced odor octanoate ester prepared by the process of claim 40.

47. In a process for preparing reduced odor glycol
 5 dibenzoate esters from an esterification reaction mixture obtained by reacting a glycol with benzoic acid in the presence of an effective amount of a catalyst, which comprises the steps of:

heating said reaction mixture;

collecting distillate comprising the water of reaction;

10 neutralizing and washing the acidity of said reaction mixture with at least one alkali;

drying said ester; and

filtering the refined ester product;

the improvement comprising removing said catalyst from said
 15 reaction mixture after the reaction is complete, and before neutralization.

48. The process of claim 47 wherein said glycol comprises from 3 to 12 carbon atoms.

49. The process of claim 47 wherein said glycol preferably comprises 6 to 12 carbon atoms.

50. The process of claim 47 wherein said glycol is
 25 preferably dipropylene glycol.

51. The process of claim 47 wherein said catalyst is stannous oxalate or zinc oxide.

52. The process of claim 47 wherein after said
5 neutralization is completed, contacting the wet, crude ester with a bleaching agent.

53. A reduced odor glycol dibenzoate ester prepared by the process of claim 47.